

RECEIVED 12 FEB 2004

Rec'd PCT/STO 14 FEB 2005  
CONFIRMATION

## PATENT COOPERATION TREATY

From the INTERNATIONAL SEARCHING AUTHORITY

To:

Davies Collison Cave  
PO Box 2219  
MILTON BUSINESS CENTRE QLD 4064

## PCT

NOTIFICATION OF TRANSMITTAL OF  
THE INTERNATIONAL SEARCH REPORT  
OR THE DECLARATION

(PCT Rule 44.1)

Date of mailing  
(day/month/year) 10 FEB 2004Applicant's or agent's file reference  
12177502/VPA/sjw

FOR FURTHER ACTION See paragraphs 1 and 4 below

International application No.

PCT/AU2003/001021

International filing date

12 August 2003

Applicant

THE UNIVERSITY OF QUEENSLAND et al

- 1.
- ☐
- The applicant is hereby notified that the international search report has been established and is transmitted herewith.

**Filing of amendments and statement under Article 19:**

The applicant is entitled, if he so wishes, to amend the claims of the international application (see Rule 46):

**When?** The time limit for filing such amendments is normally two months from the date of transmittal of the international search report.**Where?** Directly to the International Bureau of WIPO  
34, chemin des Colombettes  
1211 Geneva 20, Switzerland  
Facsimile No.: (41-22) 740.14.35

For more detailed instructions, see the notes on the accompanying sheet.

- 2.
- ☐
- The applicant is hereby notified that no international search report will be established and that the declaration under Article 17(2)(a) to that effect is transmitted herewith.

- 3.
- ☐
- With regard to the protest against payment of (an) additional fee(s) under Rule 40.2, the applicant is notified that:

☐ the protest together with the decision thereon has been transmitted to the International Bureau together with the applicant's request to forward the texts of both the protest and the decision thereon to the designated Offices.☐ no decision has been made yet on the protest; the applicant will be notified as soon as a decision is made.

## 4. Reminders

Shortly after 18 months from the priority date, the international application will be published by the International Bureau.

If the applicant wishes to avoid or postpone publication, a notice of withdrawal of the international application, or of the priority claim, must reach the International Bureau as provided in Rules 90bis.1 and 90bis.3, respectively, before the completion of the technical preparations for international publication.

Within 19 months from the priority date, but only in respect of some designated Offices, a demand for international preliminary examination must be filed if the applicant wishes to postpone the entry into the national phase until 30 months from the priority date (in some Offices even later);

otherwise, the applicant must, within 20 months from the priority date, perform the prescribed acts for entry into the national phase before those designated Offices.

In respect of other designated Offices, the time limit of 30 months (or later) will apply even if no demand is filed within 19 months.

See the Annex to Form PCT/IB/301 and, for details about the applicable time limits, Office by Office, see the *PCT Applicant's Guide*, Volume II, National Chapters and the WIPO Internet site.

Name and mailing address of the ISA/AU

AUSTRALIAN PATENT OFFICE  
PO BOX 200, WODEN ACT 2606, AUSTRALIA  
E-mail address: pct@ipaustalia.gov.au  
Facsimile No. (02) 6285 3929

Authorized officer

TERRY MOORE

Telephone No. (02) 6283 2632

# PATENT COOPERATION TREATY

## PCT

### INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

|   |   |
|---|---|
| Applicant's or agent's file reference<br>12177502/v       | <div style="display: flex; justify-content: space-between;"> <div style="text-align: center;"><b>FOR FURTHER ACTION</b></div> <div>see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.</div> </div> |
| International application No.<br><b>PCT/AU2003/001021</b> | <div style="display: flex; justify-content: space-between;"> <div>International filing date (<i>day/month/year</i>)<br/>12 August 2003</div> <div>(Earliest) Priority Date (<i>day/month/year</i>)<br/>12 August 2002</div> </div>  |
| Applicant<br><b>THE UNIVERSITY OF QUEENSLAND et al</b>    |   |

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 3 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

#### Basis of the report

- a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
 

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).
- b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing:
 

☐ contained in the international application in written form.  
☐ filed together with the international application in computer readable form.  
☐ furnished subsequently to this Authority in written form.  
☐ furnished subsequently to this Authority in computer readable form.  
☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.  
☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.
2. ☐ **Certain claims were found unsearchable** (See Box I).
3. ☐ **Unity of invention is lacking** (See Box II).
4. With regard to the **title**,
 

☒ the text is approved as submitted by the applicant.  
☐ the text has been established by this Authority to read as follows:
5. With regard to the **abstract**,
 

☒ the text is approved as submitted by the applicant  
☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.
6. The figure of the **drawings** to be published with the abstract is Figure No.
 

☐ as suggested by the applicant.  
☐ because the applicant failed to suggest a figure  
☐ because this figure better characterizes the invention

☒ None of the figures

**A. CLASSIFICATION OF SUBJECT MATTER**Int. Cl. <sup>7</sup>: C12N 5/16; A61K 35/14

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

See Electronic Database

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched  
See Electronic Database

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

PIDS; MEDLINE; CA: APC, antigen presenting cell, dendritic cell, macrophage, activity, expression, CD40, NF kappa B, block, inhibit, modulate, antagonise, decrease, suppress

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

| Category* | Citation of document, with indication, where appropriate, of the relevant passages  | Relevant to claim No.                                      |
|-----------|---|--|
| X         | McRae <i>et al.</i> (2000) 'Interferon- $\alpha$ and $\beta$ inhibit the in vitro differentiation of immunocompetent human dendritic cells from CD14 <sup>+</sup> precursors' Blood. Vol 96(1): 210-217                           | 1,3, 6-8, 14-17, 35-40, 46-58                              |
| X         | Yoshimura <i>et al.</i> (2001) 'Effective antigen presentation by dendritic cells is NF- $\kappa$ B dependent: coordinate regulation of MHC, co-stimulatory molecules and cytokines' International Immunology. Vol 13(5): 675-683 | 1,3, 6-8, 10, 14, 15, 18-20, 25, 28, 30, 33, 34, 35, 38-58 |



Further documents are listed in the continuation of Box C



See patent family annex

\* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T"

later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X"

document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y"

document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&amp;"

document member of the same patent family

Date of the actual completion of the international search  
23 December 2003Date of mailing of the international search report  
10 FEB 2004

Name and mailing address of the ISA/AU

AUSTRALIAN PATENT OFFICE  
PO BOX 200, WODEN ACT 2606, AUSTRALIA  
E-mail address: pct@ipaaustralia.gov.au  
Facsimile No. (02) 6285 3929

Authorized officer

TERRY MOORE

Telephone No : (02) 6283 2632

## C (Continuation).

## DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages   | Relevant to claim No.                            |
|-----------|--|--|
| X         | Giannoukakis <i>et al.</i> (2000) 'Prolongation of cardiac allograft survival using dendritic cells treated with NF- $\kappa$ B decoy oligodeoxyribonucleotides'<br>Molecular Therapy. Vol 1(5)( part 1): 430-437  | 1,3, 6-8, 10,<br>14, 15, 18-20,<br>34, 35, 38-58 |
| X         | Verhasselt <i>et al.</i> (1999) 'N-Acetyl-L-Cysteine inhibits primary human T cell Responses at the dendritic cell level: association with NF- $\kappa$ B Inhibition'<br>The Journal of Immunology. Vol 162(5): 2569-2574  | 1,3, 6-8, 10,<br>14, 15, 18-20,<br>34, 35, 38-58 |
| X         | Pan <i>et al.</i> (2001) 'Dexamethasone inhibits the antigen presentation of dendritic cells in MHC class II pathway'<br>Immunology Letters Vol 76: 153-161  | 1,3, 6-8,<br>14-17, 35-40,<br>46-58              |
| X         | O'Sullivan BJ and Thomas R. (2002) 'CD40 ligation conditions dendritic cell antigen-presenting function through sustained activation of NF- $\kappa$ B'<br>The Journal of Immunology. Vol 168(11): 5491-5498   | 41-58  |
| P,X       | Ruby <i>et al.</i> (2002) '2,3,7,8-Tetrachlorodibenzo- <i>p</i> -dioxin suppresses tumor necrosis factor- $\alpha$ and anti-CD40-induced activation of NF- $\kappa$ B/Rel in dendritic cells: p50 homodimer activation is not affected'<br>Molecular Pharmacology. Vol 62: 722-728 | 41-45  |
| P,X       | Caldwell <i>et al.</i> (2003) 'Mechanisms of ganglioside inhibition of APC function'<br>The Journal of Immunology. Vol 171(4): 1676-1683   | 1-58   |